

**REMARKS**

Entry of the foregoing and reconsideration of the application identified in caption, as amended, pursuant to and consistent with 37 C.F.R. §1.111 and in light of the remarks which follow, are respectfully requested.

By the above amendments, the instant specification has been amended to correct clerical errors in the numbering of Examples 6-27 and 6-28. Claims 2 and 5 have been canceled without prejudice or disclaimer. Claim 1 has been amended to recite that said titanium dioxide contains cobalt. Claims 16 and 19 have been amended and now recite inorganic fine particles comprising as a main component titanium dioxide containing cobalt. Support for such amendments can be found in the instant specification at least at page 6, lines 12-18. Claims 3 and 4 have been amended to depend from claim 1 in light of the cancellation of claim 2. Claims 3 and 4 have also been amended by replacing the terms "each element" and "said element" with "the cobalt" in light of the above amendment of claim 1.

Claims 9, 20 and 23 have been amended to remove the extra periods set forth therein. Claim 17 has been amended to correct a typographical error therein, and claim 19 has been amended for readability purposes. Claim 20 has been revised to include the bonds that were inadvertently omitted in the previously filed Preliminary Amendment.<sup>1</sup> Claims 24 and 26 have been amended to recite the phrase "comprising providing the high refraction film on a transparent support". Support for such amendments can be found in the instant specification at least at page 52.

In the Official Action, the specification has been objected to for not containing a brief description of Figures 4(c) and 4(d). In the Preliminary Amendment filed October 13, 2004, Figures 4(c) and 4(d) were amended to be correctly identified as Figures 4(a) and 4(b) and the

---

<sup>1</sup> Such bonds appear in originally presented claim 20, and as such have been added herein without underlining.

brief description concerning such drawings was amended accordingly. In view of the fact that the present application does not contain Figures 4(c) and 4(d), no description of such drawings is needed. Accordingly, withdrawal of the above objection is respectfully requested.

Claims 24 and 26 stand rejected under 35 U.S.C. §101 as failing to set forth a step of the recited process. Without addressing the propriety of the Examiner's comments, this rejection is moot in light of the above amendments to claims 24 and 26, which now recite providing the high refraction film on a transparent support. Accordingly, withdrawal of the rejection is respectfully requested.

Claims 1-15, 18 and 24-32 stand rejected under 35 U.S.C. §112, second paragraph, for reciting the term "high refractive index." Specifically, the Examiner has taken the position that "the specification does not provide a standard for ascertaining the requisite degree." However, the instant specification at page 9 states that the high refraction film is characterized by a refractive index of from 1.55 to 2.40. Thus, in light of such disclosure of the specification, it is clear that the term "high refractive index" refers to a refractive index of from 1.55 to 2.40. Accordingly, withdrawal of the above §112 rejection is respectfully requested.

Claims 9, 20 and 23 stand rejected under 35 U.S.C. §112, second paragraph, for the reasons set forth at page 3 of the Official Action. This rejection is moot in light of the above amendments in which claims 9, 20 and 23 have been amended to remove the extra periods set forth therein. Claim 20 has also been revised to include the bonds that were inadvertently omitted from such claim in the Preliminary Amendment filed October 13, 2004. Accordingly, withdrawal of the above §112 rejection is respectfully requested.

Claims 1-4, 6-19 and 21-32 stand rejected under 35 U.S.C. §102(b) as being anticipated by European Patent Document No. 1 089 093 (*EP '093*). Withdrawal of this rejection is respectfully requested for at least the following reasons.

In view of the above amendments, independent claim 1 now recites inorganic fine particles comprising titanium dioxide as a main component, said titanium dioxide containing cobalt. Similarly, claims 16 and 19 now recite inorganic fine particles comprising as a main component titanium dioxide containing cobalt. The Patent Office has acknowledged that *EP '093* does not disclose the use of cobalt. Official Action at page 6, lines 9-13. Accordingly, withdrawal of the above rejection under 35 U.S.C. §102(b) is respectfully requested.

Claims 5 and 20 have been rejected under 35 U.S.C. §103(a) as being obvious over *EP '093*. In this regard, it is respectfully noted that the rejection of claim 5 is moot in light of the cancellation of such claim. Moreover, Applicants submit that independent claims 1, 16 and 19 are not obvious over *EP '093* for at least the following reasons.

*EP '093* does not disclose or suggest each feature recited in independent claims 1, 16 and 19. For example, as discussed above, *EP '093* fails to disclose or suggest inorganic fine particles comprising titanium dioxide as a main component, said titanium dioxide containing cobalt, as recited in claim 1. In addition, there is no disclosure or suggestion of inorganic fine particles comprising as a main component titanium dioxide containing cobalt, as recited in claims 16 and 19. In stark contrast with cobalt being present in the inorganic fine particles, *EP '093* discloses the use of alumina, silica or zirconia. Page 5, lines 46-47. There is simply no disclosure of inorganic fine particles comprising as a main component titanium dioxide containing cobalt.

In this regard, the Patent Office has taken the position that "Co is an obvious, functionally equivalent metal compound to those disclosed by *EP '093* and would have been

obvious to one skilled in the art at the time of the invention." Official Action at page 6, lines 9-13. However, Applicants respectfully submit that through the use of cobalt in titanium dioxide fine particles to form anti-reflection films, significant improvements in the light resistance characteristics of such films can be attained. In this regard, attached for the Examiner's consideration is a Declaration Under 37 C.F.R. §1.132 of Hiroyuki Yoneyama (hereinafter "Declaration") which sets forth experimental data showing the surprising and unexpected nature of aspects of the claimed invention.

As discussed in the Declaration, comparative titanium dioxide fine particles were prepared containing iron (Comparative Example A), aluminum (Comparative Example B) and zirconium (Comparative Example C), in the manner discussed at pages 2-4 of the Declaration. Titanium dioxide fine particles which did not contain an additional metal (Comparative Example D) were also prepared.

Anti-reflection films were then prepared in the same manner as Example 6-27 set forth in the specification, except that the titanium dioxide fine particles used in such example were replaced with the particles of Comparative Examples A to D. The checkerboard adhesiveness and light resistance characteristics of the comparative anti-reflection films were then evaluated in the manner discussed at page 5 of the Declaration. The results of such evaluation are set forth in Table 1 at page 6 of the Declaration. The experimental results of inventive Example 6-27, which employed cobalt in the titanium dioxide fine particles thereof, have been reproduced in Table 1 for the Examiner's convenience.

As can be seen from Table 1, inventive Example 6-27 exhibited improved light resistance characteristics at 200 and 300 hours, in comparison with each of Comparative Examples A to D. The inventive Example 6-27 was the only antireflective film to exhibit no checkers peeled out of 100 checkers at 200 hours, and 2 or less checkers peeled out of 100

checkers at 300 hours. In view of the experimental results, it is apparent that the use of cobalt in the formation of titanium dioxide fine particles of an antireflection film, can provide surprising and unexpected results in the form of improved light resistance characteristics.

For at least the above reasons, it is apparent that the claims are not obvious over *EP* '093. Accordingly, withdrawal of the §103(a) rejection is respectfully requested.

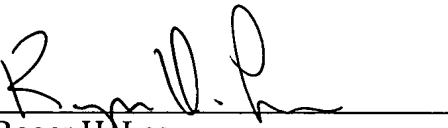
From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such action is earnestly solicited. If there are any questions concerning this paper or the application in general, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date: August 6, 2007

By:

  
Roger H. Lee  
Registration No. 46317

P.O. Box 1404  
Alexandria, VA 22313-1404  
703 836 6620